

Preliminary Amendment in RCE of Application Number 09/492,755  
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Version with markings to show changes made

1. (Twice amended) A device for manufacturing items made of plastic material, with molding units arranged on a structure of carousel which rotates about a first vertical axis, the device including an upper male mold part and a lower female mold part which are aligned along a second vertical axis, parallel to said first vertical axis of the carousel, said male mold part comprising: a cylindrical jacket which is rigidly coupled to the structure of the rotating carousel coaxial to a sliding axis of the female mold part; a sleeve which is guided on said jacket; and a forming punch which is guided in said jacket and comprises a tubular stem, said tubular stem having a lower portion forming a chamber, said lower portion being constituted by a plate fixed to said stem and having [further including] an outer surface which is shaped so as to produce internal molding of a molded item, said plate including ports provided at said outer surface, said ports being supplied with compressed air; a tube accommodated inside said stem, said tube forming, together with said stem, a cylindrical interspace which is connected to said chamber; a slender tube arranged internally along said tube and connected hermetically to said plate in communication with said ports, said slender tube forming, together with said tube, a tubular channel, said tubular channel being connected to said chamber; and coolant fluid delivery and return couplings, said cylindrical interspace and said tubular channel being connected to said coolant fluid delivery and return couplings, and said slender tube being supplied with, and further conveying compressed air through said ports between said outer surface and the molded item, so as to cause the separation of said item from said lower portion of said tubular stem.

2. (Amended) The device of claim 1, wherein said [lower portion comprises: a] plate [which] is centered at a flared region of said stem[, said plate being] and is provided with a tubular tang which is screwed into said stem so as to form said chamber, and wherein lower ends of said tube and of said slender tube are inserted hermetically in said tang so as to close said cylindrical interspace and said tubular channel, said cylindrical interspace and said tubular channel being connected to said chamber through openings provided at said tang.

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6. (Amended) A device for manufacturing caps of plastic material for closing containers, with molding units arranged on a structure of carousel which rotates about a first vertical axis, the device including an upper male mold part and a lower female mold part which are aligned along a second vertical axis, parallel to said first vertical axis of the carousel, said male mold part comprising: a cylindrical jacket which is rigidly coupled to the structure of the rotating carousel coaxial to a sliding axis of the female mold part; a sleeve which is guided on said jacket; and a forming punch which is guided in said jacket and comprises a tubular stem, said tubular stem having a lower portion forming a chamber, said lower portion being constituted by a plate fixed to said stem and having [further including] an outer surface which is shaped so as to produce internal molding of a molded item, [and] said plate including ports provided at said outer surface, said ports being supplied with compressed air; a tube accommodated inside said stem, said tube forming, together with said stem, a cylindrical interspace which is connected to said chamber; a slender tube arranged internally along said tube and connected hermetically to said plate in communication with said ports, said slender tube forming, together with said tube, a tubular channel, said tubular channel being connected to said chamber; and coolant fluid delivery and return couplings, said cylindrical interspace and said tubular channel being connected to said coolant fluid delivery and return couplings, and said slender tube being supplied with, and further conveying compressed air through said ports between said outer surface and the molded item, so as to cause the separation of said item from said lower portion of said tubular stem.

7. (Amended) The device of claim 6 wherein said [lower portion comprises: ] plate [which] is centered at a flared region of said stem[, said plate being] and is provided with a tubular tang which is screwed into said stem so as to form said chamber, and wherein lower ends of said tube and of said slender tube are inserted hermetically in said tang so as to close said cylindrical interspace and said tubular channel, said cylindrical interspace and said tubular channel being connected to said chamber through openings provided at said tang.

11. (Amended) A device for manufacturing items made of plastic material, with molding units arranged on a structure of carousel which rotates about a first vertical axis, the device including an upper male mold part and a lower female mold part which are aligned

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along a second vertical axis, parallel to said first vertical axis of the carousel, said male mold part comprising: a cylindrical jacket which is rigidly coupled to the structure of the rotating carousel coaxial to a sliding axis of the female mold part; a sleeve which is guided on said jacket; and a forming punch which is guided in said jacket and comprises a tubular stem, said tubular stem having a lower portion forming a chamber, said lower portion further including an outer surface which is shaped so as to produce internal molding of a molded item, and ports provided at said outer surface, said ports being supplied with compressed air; a tube accommodated inside said stem, said tube forming, together with said stem, a cylindrical interspace which is connected to said chamber; a slender tube arranged internally along said tube and forming, together with said tube, a tubular channel, said tubular channel being connected to said chamber; and coolant fluid delivery and return couplings, said cylindrical interspace and said tubular channel being connected to said coolant fluid delivery and return couplings, and said slender tube being supplied with, and further conveying compressed air through said ports between said outer surface and the molded item, so as to cause the separation of said item from said lower portion of said tubular stem, wherein said lower portion [comprises:] is constituted by a plate which is centered at a flared region of said stem, said plate being provided with a tubular tang which is screwed into said stem so as to form said chamber, and wherein lower ends of said tube and of said slender tube are inserted hermetically in said tang so as to close said cylindrical interspace and said tubular channel, said cylindrical interspace and said tubular channel being connected to said chamber through openings provided at said tang, a body coupled to an upper end of said stem, upper ends of said tube and of said slender tube being inserted hermetically in said body; and holes being formed in said body in order to connect said cylindrical interspace and said tubular channel to said coolant fluid delivery and return couplings and to allow supplying of compressed air to said slender tube, an element which is fixed to a top part of said stem, said element being provided with couplings for connection to said holes, and accommodating said body which has a cylindrical form, comprising elastic means, which are interposed between said element and the structure of the carousel for returning said stem into a position in which said punch rests against a shoulder of said jacket.

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12. (Amended) A device for manufacturing caps of plastic material for closing materials with molding units arranged on a structure of carousel which rotates about a first vertical axis, the device including an upper male mold part and a lower female mold part which are aligned along a second vertical axis, parallel to said first vertical axis of the carousel, said male mold part comprising: a cylindrical jacket which is rigidly coupled to the structure of the rotating carousel coaxial to a sliding axis of the female mold part; a sleeve which is guided on said jacket; and a forming punch which is guided in said jacket and comprises a tubular stem, said tubular stem having a lower portion forming a chamber, said lower portion further including an outer surface which is shaped so as to produce internal molding of a molded item, and ports provided at said outer surface, said ports being supplied with compressed air; a tube accommodated inside said stem, said tube forming, together with said stem, a cylindrical interspace which is connected to said chamber; a slender tube arranged internally along said tube and forming, together with said tube, a tubular channel, said tubular channel being connected to said chamber; and coolant fluid delivery and return couplings, said cylindrical interspace and said tubular channel being connected to said coolant fluid delivery and return couplings, and said slender tube being supplied with, and further conveying compressed air through said ports between said outer surface and the molded item, so as to cause the separation of said item from said lower portion of said tubular stem, wherein said lower portion [comprises:] is constituted by a plate which is centered at a flared region of said stem, said plate being provided with a tubular tang which is screwed into said stem so as to form said chamber, and wherein lower ends of said tube and of said slender tube are inserted hermetically in said tang so as to close said cylindrical interspace and said tubular channel, said cylindrical interspace and said tubular channel being connected to said chamber through openings provided at said tang, a body coupled to an upper end of said stem, upper ends of said tube and of said slender tube being inserted hermetically in said body; and holes being formed in said body in order to connect said cylindrical interspace and said tubular channel to said coolant fluid delivery and return couplings and to allow supplying of compressed air to said slender tube, an element which is fixed to a top part of said stem, said element being provided with couplings for connection to said holes, and accommodating said body which has a cylindrical form, elastic means, which

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are interposed between said element and the structure of the carousel for returning said stem into a position in which said punch rests against a shoulder of said jacket.

14. (Amended) A device according to claim [13] 16 wherein said forming punch comprises a bell-shaped portion, [a] said plate being centered to said bell-shaped portion and having a [tubular] tubular tang centrally projecting therefrom [from said plate] and coupled to said [tubular] tubular stem so as to define said chamber, a plurality of radial holes radially formed in said plate and opened onto the outside of said punch, a bush hermetically inserted in said tang and connected a lower end of said slender tube to said radial holes, a recess formed in said body, a cylinder [accommodated] accommodated in said recess coaxially to said slender tube and provided with respective holes communicating with said compressed air supply, said upper end of said slender tube being hermetically inserted in said cylinder and connected to said compressed air supply through said respective holes.

15. (Amended) The device according to claim [13] 16, further comprising elastic means which are interposed between said cylindrical element and a structure of said carousel and are suitable to return said tubular stem into a position in which said forming punch rests against a shoulder of said jacket.